

PPE for Zero-Energy Re-Checks

Summary

After an electrical circuit has been Locked out/tagged out (LOTO) by a Responsible Employee and is in an electrically safe work condition, work on the LOTO parts is no longer considered working on or near. Therefore, any action, including additional circuit testing, while the parts are LOTO is not considered working on or near and the PPE requirements do not apply. However, this LOTO is either a Group or Operations LOTO and a specific procedure is required.

Relevant Codes Sections

NFPA 70E Article 100 Definition of Electrically Safe Working Condition

A state in which the conductor or circuit part to be worked on or near has been disconnected from energized parts, locked/tagged in accordance with established standards, tested to ensure the absence of voltage, and grounded if determined necessary.

NFPA 70E Article 120.2 (A)

All electrical circuit conductors and circuit parts shall be considered energized until the source(s) of energy is (are) removed, at which time they shall be considered deenergized. All electrical circuit conductors and circuit parts shall not be considered to be in an electrically safe condition until all sources of energy are removed, the disconnecting means is under lockout/tagout, the absence of voltage is verified by an approved voltage testing device, and, where exposure to energized facilities exists, are temporarily grounded. (See 120.1 for the six-step procedure to establish an electrically safe work condition.) Electrical conductors and circuit parts that have been disconnected, but not under lockout/tagout, tested, and grounded (where appropriate) shall not be considered to be in an electrically safe work condition, and safe work practices appropriate for the circuit voltage and energy level shall be used. Lockout/tagout requirements shall apply to fixed, permanently installed equipment, to temporarily installed equipment, and to portable equipment.

NFPA 70E Article 120.2 (D) (3)(c)

The complex lockout/tagout procedure shall identify the person in charge. In this (these) instance(s), the person in charge shall be permitted to install locks/tags, or direct their installation, on behalf of other employees. The person-in-charge shall be held accountable for safe execution of the complex lockout/tagout. The complex lockout/tagout procedure shall address all the concerns of employees who might be exposed. All complex lockout/tagout procedures shall require a written plan of execution that identifies the person in charge. All complex lockout/tagout plans shall identify the method to account for all persons who might be exposed to electrical hazards in the course of the lockout/tagout.

Discussion / Analysis

Interpretation of the Electrical Safety Committee – November 2007

An important part of the LOTO program is the verification of zero-energy within the defined boundary of the work area. Electrical conductors and circuit parts that have been disconnected, but not under LOTO, tested, and grounded (where appropriate) are not in an electrically safe work condition. Therefore, PPE is required for testing until the circuits have been rendered electrically safe. Once a circuit has been deemed “Electrically Safe” with the application of the LOTO by a Responsible Employee, it shall be treated as deenergized. Any other workers may work on the LOTO system without performing a zero-energy test as long as they add their lock to the locked out device(s), this may be a lock tree or lock box. It is always appropriate for workers to verify that the circuit or system they are working on is deenergized and they may wear PPE as they want, however, this verification is not the “zero-energy test” and they are not required to wear PPE or use test equipment required by the procedure.

Note: Insulated conductors, 600Volts and below are not energized live parts.